PLAYER'S GUIDE

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1. Introduction

The three sections of this manual contain all the information you need to play BioWar. Section 1 introduces the game; Section 2 gives a brief tour through a sample game and Section 3 explains all the rules.

BioWar is an abstract game of cell growth, loosely based on Conway's Game of Life which appeared in Scientific American. Each player attempts to control the growth of his cells, while trying to kill off all opposing players' cells.

BioWar can be played as a multi-player game with up to 6 players, or a single person can play by himself to get practice with the growth patterns of the cells.

2. Tour

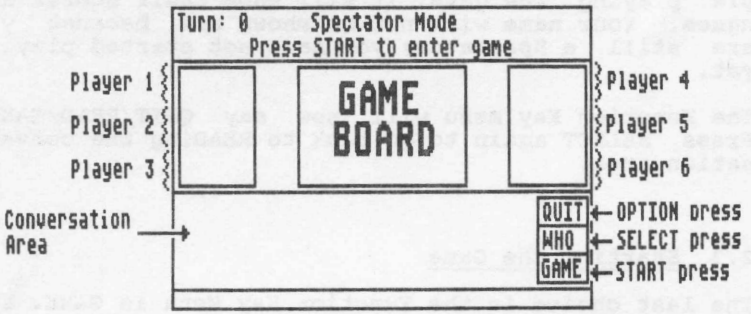
This section gives a quick run-through of a sample one player BioWar session. The tour is written assuming that you are logged into GCP and can follow along and compare the instructions with what you see on your screen.

BioWar is located in the Game Floor, just to the right of Lords Of Space. Make sure that you have your GAME1 disk in the disk drive, then move your droid onto the pad in front of BioWar and press the trigger. The disk will access, then the initial BioWar screen will appear.

2.1 Screen Layout

The turn number is shown on the top line of the screen. It will be turn 0 if no one else is playing. If it is not 0 on your screen, then there are other people playing. These instructions are for when there are no other players in BioWar, so what happens to the cells you place in the upcoming examples will look different on your screen if there are other players. Don't worry about this; just follow along for now and you will get the basics of how to operate the game.

When you first enter BioWar, you will not actually be playing the game; instead you will be in "Spectator Mode". This allows you to watch a game in progress if other people are currently playing.



The central part of the screen shows the game board and the information about each player. The player boxes show the cells for each player and the number of each which are currently on the board. Initially, there will not be any numbers next to the cells because the game board is blank.

The blue area below the game board is for conversations. Type "Hi" and press [Return]. The message will show up just as if you were in the City.

2.2 Function Key Menu

On the right side of the conversation area is the Function Key menu. This menu shows the actions for each of the Function Keys. The top key represents OPTION, the middle is SELECT and the bottom is START (they are laid out like the function keys on the Atari 400/800 and XL computers). Whenever you want to pick something in the Function Key menu, just press the appropriate Function Key.

Initially the Function Key Menu will show QUIT, WHO and GAME. You press OPTION to exit the game. After you press it, you will be prompted to make sure that is what you want. Try pressing it now. The Function Key menu will change to NO/YES/GAME. Press OPTION again to select NO (if you pressed SELECT, it would confirm the QUIT you selected before and exit you from BioWar).

The Function Key menu will now say QUIT/WHO/GAME again. Press SELECT to pick WHO. This flips the conversation area to show the information on the people playing the game. It will show their scores and names. Your name will not be shown now, because you are still a Spectator; you have not started playing yet.

The Function Key menu will now say QUIT/READ/GAME. Press SELECT again to go back to READing the conversation area.

2.3 Starting the Game

The last choice in the Function Key Menu is GAME. You can begin the game by pressing START. After a moment,

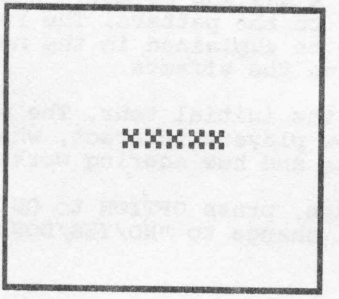
the turn number will change to 1 and you will be placed in the Adjustment Phase. This phase only lasts for 25 seconds per round, but don't panic, you can skip the first few turns.

After the Adjustment Phase is the Growth Phase. This will update the game board with the new cells based upon what happened during the Adjustment Phase and what the board position is.

Now that you are playing the game, pressing SELECT (to choose WHO in the Function Key menu) will show your name. There will not be a score next to it because you must have an opponent to accumulate a score. Press SELECT again to get back to READing the conversation area.

To actually start playing, you should wait until the start of an Adjustment Phase, then move your joystick around and press the trigger to place cells on the game board.

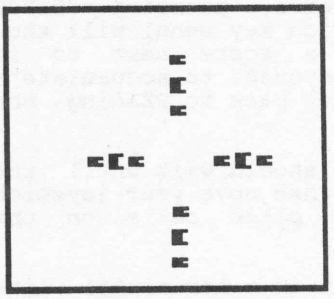
For this example, place 5 cells in a horizontal line in the center of the board, as shown below. You can then watch the cells change from turn to turn as we proceed with our tour.

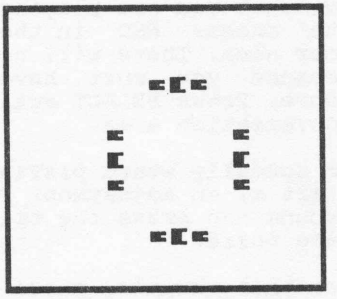


As we mentioned above, each Adjustment Phase lasts 25 seconds. You can shorten it by pressing the START key (to select DONE in the Function Key Menu). This signifies that you are done with the Adjustment Phase and will begin the Growth Phase as soon as all the other players are finished with their Adjustment. If there are no other players, the Growth Phase begins immediately.

Try pressing START when "Adjustment Phase" is shown on your screen. You will quickly proceed to the next turn.

After 6 or 7 turns have passed, your game board will show one of the following two patterns (unless you added new cells yourself, or started with a different initial pattern). It will alternate between these patterns each turn.





Try adding some new cells with your joystick during the next Adjustment Phase. Keep the cells bunched together to get a maximum effect. Watch what these new cells do to the pattern. The rules for how the cells grow will be explained in the next section. For now, just observe the effects.

This concludes the initial tour. The section on rules will explain how players interact, what the different cells types mean and how scoring works.

To leave the game, press OPTION to QUIT. The Function Key Menu will change to "NO/YES/DONE". Press SELECT to pick YES.

3. Game Rules

Watching the way your cells grew in the Tour might have given you the impression that what happens to the cells from one turn to the next is unpredictable. Actually, the cell growth follows very simple and straightforward rules. Understanding these rules helps you predict what your cells will do and how to effect your opponents' cells.

3.1 Growth Rules

The growth rules are based upon the 'population' of cells. The population is measured by counting up the number of your cells adjacent to each position on the game board. These adjacent cells are called "neighbors". (NOTE: adjacency is counted vertically, horizontally and diagonally). The example below shows the number of neighbors for selected positions on the board.

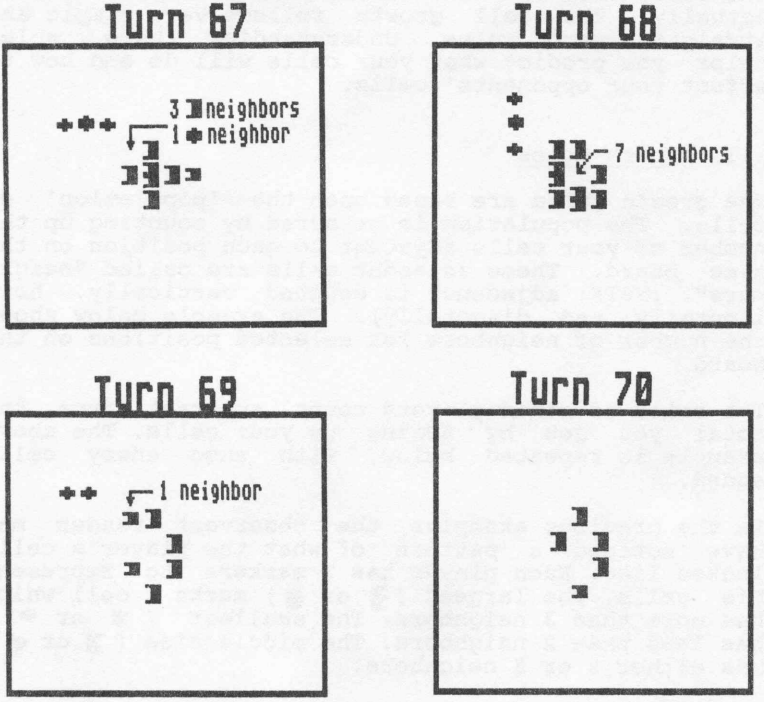
The cells of other players count subtract from the total you get by adding up your cells. The above example is repeated below, with some enemy cells added.

In the previous examples, the observent reader may have noticed a pattern of what the player's cells looked like. Each player has 3 markers to represent his cells. The largest (▪ or ✚) marks a cell which has more than 3 neighbors. The smallest (▪ or ✚) has less than 2 neighbors. The middle size (▪ or ✚) has either 2 or 3 neighbors.

These 3 different markers directly relate to the cell growth rules. These rules are listed below.

1. A cell dies off if it has less than 2 neighbors. These cells look like ▪ or ✚ .
2. A cell dies off if it has more than 3 neighbors. These cells look like ▪ or ✚ .
3. A new cell is created in any empty position that has exactly 3 neighbors.

As you can see, the cell growth rules are quite short and simple. Being able to accurately predict the effect of these rules on an entire board in 25 seconds or less is a bit more of a challenge. The following example may help you get started.



3.2 Placing New Cells

During each Adjustment Phase, you can place new cells in the empty positions on the board. You place these new cells by moving the joystick and positioning the cursor that will appear on an empty position. Then press the trigger. A will appear on the board to indicate that you have placed a new cell there.

On the very 1st Adjustment Phase that you place cells, you can place 10 new cells. On any subsequent Adjustment Phase you can place a maximum of 5 cells.

If you place a new cells in a position that an

opponent also places a cell, only one of you will have a cell placed there.

You can "take back" the placement of a cell by moving the cursor back onto the position that you put the new cell and pressing the trigger again. You can only take back new cells you placed this Phase, and only before you have used up your allotment of cells for the Phase.

3.3 Ending the Game

You can continue to place new cells on the board as long as you still have cells on the board. Once all your cells are gone, you are out of the game. To continue playing, you must exit back to the Game Floor and reenter BioWar.

3.4 Scoring

The score that you earn is dependent on how many cells you have in comparison to your opponents. When you are playing by yourself, you have no opponents, and earn no points.

You earn 1 point for each opponent who has fewer cells on the board than you do for that turn. This means that in a 6 player game, the person who has the most cells will earn 5 points for that turn. The player with the next largest number of cells will earn 4 points and so on, down to the player with the fewest cells, who earns no points for that turn.